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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/842,988	04/26/2001	Jemm Y. Liang	M-10710-1P US	7880

27869 7590 03/13/2003

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EXAMINER

ANYASO, UCHENDU O

ART UNIT	PAPER NUMBER
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2675

DATE MAILED: 03/13/2003

10

Please find below and/or attached an Office communication concerning this application or proceeding.



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AD

Office Action Summary

Application No.

09/842,988

Applicant(s)

LIANG ET AL.

Examiner

Uchendu O Anyaso

Art Unit

2675

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 June 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-45 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-45 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. **Claims 1-45** are pending in this action.

Claim Rejections - 35 USC ' 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. **Claims 1 and 14-23** are rejected under 35 U.S.C. 103(a) as being unpatentable over *Kurumisawa* (U.S. 6,262,704) in view of *Koshobu* (U.S. 5,764,225).

Regarding **independent Claims 1, 14 and 23**, *Kurumisawa* teaches a liquid crystal display device comprising a row and column array wherein overlapping areas arrays of the two arrays define pixels of the display (figure 34A at 710, 720, Li, Si).

Furthermore, *Kurumisawa* teaches how at least one of the electrical potential supplied to the display matrix floats with a voltage supplied by electrically isolating the matrix (column 20, lines 55-63; column 21, lines 21-28, figure 34A, 34B).

However, *Kurumisawa* does not teach two separate power sources. On the other hand, *Koshobu* teaches a liquid crystal panel with scanning lines formed along the rows of the pixel electrodes signal lines formed along the columns of the pixel electrodes comprising at least two separate power sources (70, 80) (see column 4, lines 20-30, figure 1 at 70, 80). This provides a display capable of easily reducing flicker in a large-size display device (column 2, lines 32-34).

Thus, it would have been obvious to a person of ordinary skill in the art to combine *Kurumisawa* and *Koshobu* because while *Kurumisawa* teaches a liquid crystal display device comprising a row and column array wherein overlapping areas arrays of the two arrays define pixels of the display (figure 34A at 710, 720, Li, Si) wherein at least one of the electrical potential supplied to the display matrix floats with a voltage supplied, *Koshobu* teaches a liquid crystal panel with at least two separate power sources (70, 80) (see column 4, lines 20-30, figure 1 at 70, 80). The motivation for combining these inventions would have been to provide a display capable of easily reducing flicker in a display device (column 2, lines 39-49).

Regarding **Claims 12, 13, 15-17 and 19-21**, in further discussion of claims 1 and 14, *Kurumisawa* teaches a liquid crystal display device comprising a row and column array wherein overlapping areas arrays of the two arrays define pixels of the display (figure 34A at 710, 720, Li, Si).

Furthermore, *Kurumisawa* teaches supplying electric potential to the row and column electrodes by teaching a voltage source 700 connected to the row and column drivers (figure 34A at 710, 720, Li, Si).

Regarding **Claims 18 and 22** in further discussion of claim 2, 14 and 17, *Koshobu* teaches a liquid crystal panel with scanning lines formed along the rows of the pixel electrodes signal lines formed along the columns of the pixel electrodes

Art Unit: 2675

comprising at least two separate power sources (70, 80) (see column 4, lines 20-30, figure 1 at 70, 80).

Furthermore, *Kurumisawa* a reference voltage such that the voltage levels of the data lines are symmetrically distributed with its "predetermined reference voltage level" placed centrally with one half the voltage levels on the positive side and the other half on the negative side of the predetermined reference voltage level wherein the "predetermined reference voltage level" can be set to coincide with the scan voltage level during the non-selection period (column 3, lines 33-55).

4. **Claims 2-11 and 24** are rejected under 35 U.S.C. 103(a) as being unpatentable over *Kurumisawa* (U.S. 6,262,704) in view of *Koshobu* (U.S. 5,764,225), as in claim 1, and further in view of *Iwamoto* (U.S. 4,802,739).

Regarding **Claims 2-5, 8-10 and 24**, in further discussion of claims 1 and 23, *Kurumisawa* teaches how at least one of the electrical potential supplied to the display matrix floats with a voltage supplied by electrically isolating the matrix (column 20, lines 55-63; column 21, lines 21-28, figure 34A, 34B).

However, *Kurumisawa* and *Koshobu* do not teach how an energy storage device such as a capacitor would be charged in the device. On the other hand, *Iwamoto* teaches how a liquid crystal device comprises capacitors (C1, C2) that are charged and discharged to supply at least one of the energy potential (column 2, lines 55 to column 3, line 63, figure 1 at C1, C2).

Art Unit: 2675

Thus, it would have been obvious to a person of ordinary skill in the art to combine *Kurumisawa*, *Koshobu* and *Iwamoto*'s inventions because while the combination of *Kurumisawa* and *Koshobu* teach a liquid crystal display device with dual power supplies comprising a row and column array wherein overlapping areas arrays of the two arrays define pixels of the display (figure 34A at 710, 720, Li, Si) wherein at least one of the electrical potential supplied to the display matrix floats with a voltage supplied by electrically isolating the matrix (column 20, lines 55-63; column 21, lines 21-28, figure 34A, 34B), *Iwamoto* teaches how a liquid crystal device comprises capacitors (C1, C2) that are charged and discharged to supply at least one of the energy potential (column 2, lines 55 to column 3, line 63, figure 1 at C1, C2). The motivation for combining these inventions would have been to provide a display capable of erasing and displaying the display content at the time of discontinuation of the power supply to the LCD device (column 1, lines 43-47).

Regarding **Claims 6, 7 and 11**, in further discussion of claim 2, 14 and 17, *Koshobu* teaches a liquid crystal panel with scanning lines formed along the rows of the pixel electrodes signal lines formed along the columns of the pixel electrodes comprising at least two separate power sources (70, 80) (see column 4, lines 20-30, figure 1 at 70, 80).

Furthermore, *Kurumisawa* a reference voltage such that the voltage levels of the data lines are symmetrically distributed with its "predetermined reference voltage level" placed centrally with one half the voltage levels on the positive side and the other half

on the negative side of the predetermined reference voltage level wherein the "predetermined reference voltage level" can be set to coincide with the scan voltage level during the non-selection period (column 3, lines 33-55).

5. **Claims 25-44** are rejected under 35 U.S.C. 103(a) as being unpatentable over *Kurumisawa* (U.S. 6,262,704) in view of *Iwamoto* (U.S. 4,802,739).

Regarding **independent Claims 25** and **36**, and for **claims 26, 28, 29, 35** and **37-40** *Kurumisawa* teaches a liquid crystal display device comprising a row and column array wherein overlapping areas arrays of the two arrays define pixels of the display (figure 34A at 710, 720, Li, Si).

Furthermore, *Kurumisawa* teaches supplying electric potential to the row and column electrodes by teaching a voltage source 700 connected to the row and column drivers (figure 34A at 710, 720, Li, Si).

Furthermore, *Kurumisawa* teaches how at least one of the electrical potential supplied to the display matrix floats with a voltage supplied by electrically isolating the matrix (column 20, lines 55-63; column 21, lines 21-28, figure 34A, 34B).

However, *Kurumisawa* does not teach how overlap capacitance is charged and discharged to supply an electric potential. On the other hand, *Iwamoto* teaches how a liquid crystal device comprises capacitors (C1, C2) that are charged and discharged to supply at least one of the energy potential (column 2, lines 55 to column 3, line 63, figure 1 at C1, C2).

Thus, it would have been obvious to a person of ordinary skill in the art to combine *Kurumisawa* and *Iwamoto* because *Kurumisawa* teaches a liquid crystal display device comprising a row and column array wherein overlapping areas arrays of the two arrays define pixels of the display (figure 34A at 710, 720, Li, Si), *Iwamoto* teaches how a liquid crystal device comprises capacitors (C1, C2) that are charged and discharged to supply at least one of the energy potential (column 2, lines 55 to column 3, line 63, figure 1 at C1, C2). The motivation for combining these inventions would have been to provide a display capable of erasing and displaying the display content at the time of discontinuation of the power supply to the LCD device (column 1, lines 43-47).

Furthermore, *Iwamoto* teaches switching circuits (SW1, SW5) connected to a power supply (VDD) such that *Iwamoto* would display desired images (see figure 1 at SW1, SW5, VDD).

Regarding **Claims 30-34 and 40-44**, in further discussion of claims 29 and 39, please rejection above as described in references espoused in independent claims 25 and 36.

Response to Arguments

6. Applicant's arguments with respect to claims 1-45 have been considered but are moot in view of the new ground(s) of rejection.

In response to all of applicant's arguments, please see rejection above.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent 5,392,145 to *Edwards* for a liquid crystal display with a light shielding matrix connected to conductive band for crosstalk shielding.

U.S. Patent 5,739,803 to *Neugebauer* for an electronic system for driving liquid crystal displays.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Uchendu O. Anyaso whose telephone number is (703) 306-5934. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve Saras, can be reached at (703) 305-9720.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231


or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

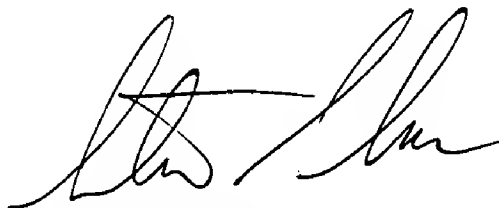
Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Art Unit: 2675

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.


Uchendu O. Anyaso

09/30/2002


STEVEN SARAS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600